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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/689,848	10/22/2003	Edward Tygard	1054	4220
27649	7590	06/08/2007	EXAMINER	
MICHAEL TOBIAS 1629 K ST NW SUITE 300 WASHINGTON, DC 20006			KEENAN, JAMES W	
			ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/689,848	Applicant(s) TYGARD, EDWARD	
	Examiner James Keenan	Art Unit 3652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 March 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 62-64, 75, 76, 83, 85 and 90-102 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 83 is/are allowed.
- 6) ☒ Claim(s) 62, 63, 85, 90-93 and 95-102 is/are rejected.
- 7) ☒ Claim(s) 64, 75, 76 and 94 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

1. Claim 83 is objected to because of the following informalities: in line 8, --, the contact portion-- should be inserted before "pivotably" for improved clarity. Appropriate correction is required.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 62, 63, 85, 90-93, and 95-102 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tygard (US 5,516,255, previously cited) in view of Kawamura (US 3,796,332, previously cited).

Tygard shows a clamping apparatus for grasping a rectangular layer of articles on a pallet from four sides and lifting the layer, comprising four clamping arms mounted on a frame for pivoting about a single degree of freedom to grasp the rectangular load from four sides, wherein each clamping arm includes a contact portion for contacting the load, a lever portion pivotally connected to the frame and the contact portion, and a drive mechanism for pivoting the clamping arm with respect to the frame.

Although Tygard shows the clamping arms able to adjust to different sized loads (see figs. 3B, 3C), it does not utilize a four-bar linkage which controls an angle of the contact portion with respect to the vertical as the clamping arm pivots.

Kawamura shows a clamping apparatus comprising frame 7 to which four clamping arms 12-15 are pivotally mounted, each including contact portion 16-19 respectively, and drive mechanisms 26-29, wherein each of the clamping arms defines a parallel four bar linkage comprised of a lever portion and a control rod both respectively pivoted to the frame and the contact portion, so that the contact portions of the clamping arms maintain a constant angle with respect to vertical as the clamping arms are pivoted relative to the frame by the drive mechanisms.

It would have been obvious for one of ordinary skill in the art at the time of the invention to have modified the apparatus of Tygard such that it utilized a four-bar linkage to control the angle of the contact portion of each clamping arm, as shown by Kawamura, as this would be a more effective means of maintaining the arms at a constant angle and thus enabling the clamping arms to properly pick up loads of varying size.

Re claims 85, 90, and 91, Tygard teaches the method steps as claimed.

Re claim 92, to have set the contact portions such that they contacted the load at a downward slope of 2-6 degrees with respect to the side of the load would have been an obvious design expediency based on the characteristics of the load to be handled. Note that the claim does not require the angle of the contact portion to be adjustable.

Re claim 93, each contact portion has "a ... planar surface ... extending between an upper and a lower edge" (emphasis added) thereof, as broadly claimed.

Re claim 95, based on the size of the apparatus, the contact portions of the arms are inherently considered "capable of being spaced from each other by at least 28 inches", as broadly and functionally claimed.

Similarly, re claims 96-102, the separation distance between the contact portions can clearly change by the various dimensions without the angle of the contact portion with respect to vertical changing by more than the various angles.

4. Applicant's arguments filed 3/27/07 have been fully considered but they are not persuasive.

Applicant argues that there is no motivation to combine Tygard and Kawamura, alleging that they are for picking up different types of articles in different environments. Applicant further alleges that Kawamura is unclearly written and thus does not adequately give any explanation as to the purpose or advantage of having the gripping claws remain level. Applicant yet further alleges that the main advantage disclosed by Kawamura is the ability of the arms to adjust toward and away from each other in a parallel direction on the same side of a load. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed.

Cir. 1992). In this case, both references show overhead grapples with four pivoting clamping arms. Applicant has not limited the claims to clamping arms used on a particular apparatus or in a particular environment. It is important to note that Kawamura is not being used to add an element absent from Tygard (i.e., a means for allowing the arms to adjust to different size loads), but rather to substitute a more effective means (i.e., the four-bar link) of doing so. Tygard already teaches the desirability of maintaining the gripping arms parallel in order to pick up loads of varying size (col. 6, lines 43-45). Kawamura simply shows another means of maintaining gripping arms parallel as they move toward and away from each other. While Kawamura is admittedly not written as clearly as it could be and does indeed disclose the means for moving the arms toward and away from each other on the same side of the load as an important feature, it is nevertheless believed to teach that the four bar linkage, by keeping the gripping arms level as they approach each other from opposite sides of the load, allows improved handling of the articles to be picked up. The paragraph in col. 2, lines 38-59, for example, states that the ability of the fluid cylinders to adjust the position of the arms allows the spacing thereof to be determined based on the size, weight and shape of the cargo. Applicant concentrates on the last portion of this paragraph (lines 51+) which refers to the parallel shifting on the same side of the load, but the paragraph when considered *in toto* refers to the fluid cylinders for moving the arms in not only the left and right directions, but also the front and rear directions (see esp. lines 42-45). Kawamura thus provides adequate motivation to modify Tygard.

5. The declaration under 37 CFR 1.132 filed 3/27/07 is insufficient to overcome the rejection of claims 62, 63, 85, 90-93, and 95-102 based upon Tygard in view of Kawamura, as set forth in the last Office action because: It refer(s) only to the system described in the above referenced application and not to the individual claims of the application. Thus, there is no showing that the objective evidence of nonobviousness is commensurate in scope with the claims. See MPEP § 716. The declaration also states that the claimed subject matter solved a problem that was long standing in the art. However, there is no showing that others of ordinary skill in the art were working on the problem and if so, for how long. In addition, there is no evidence that if persons skilled in the art who were presumably working on the problem knew of the teachings of the above cited references, they would still be unable to solve the problem. See MPEP § 716.04.

In view of the foregoing, when all of the evidence is considered, the totality of the rebuttal evidence of nonobviousness fails to outweigh the evidence of obviousness.

6. Claim 83 is allowed (although the objection noted above in paragraph 1 should be addressed).

7. Claims 64, 75, 76, and 94 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Pierre, Cassady, and Faughnan show lifting devices similar to that of Kawamura. Pierre in particular is cited for its explicit teaching that the four bar linkage keeps the gripping members level as they move toward and away from each other so as to be able to pick up loads of varying size and shape.

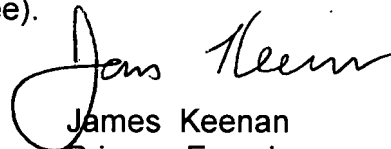
9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Keenan whose telephone number is 571-272-6925. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Mackey can be reached on 571-272-6916. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3652

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



James Keenan
Primary Examiner
Art Unit 3652

jwk
6/01/07